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FAX COVER SHEET

Date: **February 27, 2007**

To: **Shay Lynn Karls** **by FAX: 571-273-8300**
Examiner - USPTO **Phone: 571-272-1268**

From: **Michael A. McGraw** **Phone: (281) 652-6313**
Applicant

Re: **Application No. 10/708,506**
Art Unit 1744

Number of pages including Cover: 11

If you have any problems receiving this FAX please call (281) 652-6313

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February 27, 2007

To: Shay Lynn Karls, Examiner
USPTO
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Phone: 571-272-1268

by FAX: 571-273-8300

From: Michael A. McGraw Phone: (281) 652-6313
Applicant

Re: Application No. 10/708,506
Art Unit 1744

Dear Ms. Karls:

- I filed for a Petition for Extension of Time under 37 CFR 1.136(a) for one month. This was received by the USPTO on February 7, 2007. Please advise me if I need to file for additional time regarding the review of my response to the attached Notice of Non-Compliant Amendment.

I will try my best to respond with the proper procedure to the above mentioned amendment. Please advise me if I need to use different language or format. With regards to the amendments to the claims and proper status identifiers you indicated in the notice you mailed on December 20, 2006, I am responding as follows:

I will list the claims and attempt to provide the proper status identifiers:

Claims:
1. (Currently amended) An underwater system for cleaning and chemically sterilizing interior surfaces of drinking water storage, treatment, or distribution facilities comprising:

(Withdrawn) a vacuum housing having a suction opening at the bottom thereof and a vacuum housing outlet opening, and said vacuum housing having an exterior and an interior;

(New) a vacuum housing having a suction opening at the bottom thereof and a vacuum housing outlet opening, said suction opening being substantially rectangular and having a rear edge, a right edge, a left edge, and a front edge, said suction opening having a perimeter and said perimeter of said suction opening defining a plane, said vacuum housing having an exterior and an interior, said vacuum housing having a base portion and a cap portion, said cap portion having a rear wall and a front wall spaced apart from said rear wall, said cap portion having a closed top and an open bottom, said open bottom being smaller in area than said suction opening, said cap portion being joined to said base portion at said open bottom of said cap portion, said cap portion having lateral walls that extend between said front and rear wall, said cap portion having a decreasing cross sectional area in sections parallel to said plane of said suction opening, said cross sectional area of said cap portion decreasing from a maximum where said cap portion joins said base portion to a minimum at said closed top of said cap portion;

(New) said base portion having a curved front wall extending from said front edge of said suction opening to said front wall of said cap portion, a rear wall extending perpendicular to said plane of said suction opening from said suction opening rear edge to said rear wall of said cap portion, a right sidewall extending from said curved front wall of said base portion to said rear wall of said base portion and from said right edge of said suction opening to said cap portion, and a left sidewall extending from said curved front wall of said base portion to said rear wall of said base portion and from said left edge of said suction opening to said cap portion, said front and

rear walls of said base portion, said left sidewall, said right sidewall, and said cap portion cooperatively forming a concavity which opens to said suction opening;

(New) said vacuum housing outlet opening being formed in said front wall of said cap portion, said vacuum housing outlet opening being as wide as said closed top of said cap portion and extending from said closed top of said cap portion to said curved front wall of said base portion;

(Original) a variable-pressure-fluid mechanism fixed to the interior of said vacuum housing for providing a variable-pressure fluid flow against the surface to be cleaned and sterilized, said variable-pressure fluid mechanism being in communication with an exterior fluid supply line extending through the vacuum housing and connected to a fluid pump at the water surface,

(Original) a sterilization chemical and fluid source above the water fluidly connected to said variable pressure pump at the water surface,

(Withdrawn) an interior containment chamber adjustably fixed to the interior of said vacuum housing with four walls parallel to each wall of said vacuum housing having an opening on the top and bottom and having more than one flexible member, seal or plurality of bristles or brushes thereby defining a circumferential seal on the bottom edges of said four walls which is fluidly connected to both the interior cavity and the interior of the housing for containing said variable-pressure fluid flow from entering water on the exterior of said vacuum housing,

(Original) a turbine housing fixed to said exterior of said vacuum housing, said turbine housing having a turbine housing inlet and a turbine housing outlet, said turbine housing inlet being in fluid communication with said vacuum housing outlet opening;

(Original) a turbine rotatably supported within said turbine housing;

(Original) an outlet pipe supported by said vacuum housing, said outlet pipe having an outlet pipe inlet and an outlet pipe outlet, said outlet pipe inlet being in fluid communication with said turbine housing outlet;

(Original) a pair of front wheels rotatably supported by said vacuum housing proximate said suction opening, said plurality of wheels supporting said suction opening adjacent a surface to be cleaned, and allowing the underwater vacuum to be moved about the surface to be cleaned;

(Original) a pair of rear wheels and axel rotatably supported within said vacuum housing;

(Original) a means for transmitting rotational motion to said plurality of rear wheels from said turbine, whereby the underwater vacuum is self-propelled over the surface being cleaned;

(New) a brush rotatably supported within said vacuum housing, said brush having a plurality of bristles, said brush being positioned within said vacuum housing such that a predetermined number of said plurality of bristles project beyond said suction opening to the outside of said vacuum housing and contact the surface to be cleaned;

(New) means for transmitting rotational motion from said turbine to said brush;

(New) a variable pressure fluid mechanism fluidly connected to variable pressure pump at water surface for transmitting chemical sterilization chemical and fluid to the interior of the vacuum housing to sterilize and additionally clean surface;

(New) whereby, when said underwater vacuum is supported adjacent a submerged surface to be cleaned by said plurality of wheels and when said outlet pipe outlet is connected to a pump via a hose and the pump is turned on, water being drawn through said vacuum housing will cause rotation of said turbine which in turn causes rotation of said brush to thereby dislodge matter from the submerged surface, the dislodged matter becoming entrained in water being drawn through said vacuum housing, the water and the dislodged matter being removed from proximity of the submerged surface via the outlet pipe.

(Original) whereby, when said underwater vacuum and sterilization system is supported

adjacent a submerged surface to be cleaned by said plurality of wheels and when said outlet pipe outlet is connected to a pump via a hose and the pump is turned on, water being drawn through said vacuum housing will cause rotation of said turbine, which in turn causes rotation of said rear wheels;

(Original) whereby, when said variable pressure fluid pump is turned on said variable pressure fluid jets cause variable pressure fluid and sterilization chemical flow against said submerged surface to thereby dislodge matter from and sterilize the submerged surface, the water, fluid and chemical and the dislodged matter becoming entrained in water being drawn through said vacuum housing, the water and the dislodged matter being removed from proximity of the submerged surface via said outlet pipe.

2. (Currently amended) The underwater vacuum and sterilization system according to claim 1, wherein said suction opening has a rear edge, a right edge, a left edge, and a front edge, and wherein said plurality of wheels includes a plurality of rear wheels and a plurality of front wheels, said plurality of front wheels being rotatably supported on said exterior of said vacuum housing proximate said front edge, and said plurality of rear wheels rotatably supported on said interior of said vacuum housing and being connected by a connecting shaft or axel proximate said rear edge.

3. (Original) The underwater vacuum and sterilization system according to claim 2, further comprising means for transmitting rotational motion to said plurality of rear wheels from said turbine, whereby the underwater vacuum is self-propelled over the surface being cleaned.

4. (Original) The underwater vacuum and sterilization system according to claim 2, wherein:

(Original) said suction opening has a perimeter and said perimeter of said suction opening defines a plane, wherein each of said plurality of front wheels is attached to said vacuum housing by a respective one of a first plurality of adjustable attachment means such that the position of each of said plurality of front wheels can be adjusted in a direction approximately perpendicular to said plane of said suction opening; and

(Original) wherein said plurality of rear wheels are coaxially fixed to a common shaft rotatably supported by said vacuum housing, there further being a second pair of adjustable attachment means, each end of said common shaft being attached to said vacuum housing by a respective one of said second pair of adjustable attachment means, such that the position of all of said plurality of rear wheels can be adjusted in a direction approximately perpendicular to said plane of said suction opening simultaneously.

5. (Original) The underwater vacuum and sterilization system according to claim 1, further comprising a debris trap provided intermediate said vacuum housing outlet and said turbine housing inlet, fluid communication between said vacuum housing outlet and said turbine housing inlet provided via said debris trap.

6. (Original) The underwater vacuum and sterilization system according to claim 1, wherein said turbine is a first turbine, the underwater vacuum further comprising:

a second turbine; and

(Original) a common turbine shaft rotatably supported within said turbine housing, said first turbine and said second turbine being fixed in tandem to said common turbine shaft, whereby water rushing through said first turbine and said second turbine causes rotation of said common turbine shaft.

7. (Original) The underwater vacuum and sterilization system according to claim 6, further comprising a plurality of re-directional baffles provided intermediate said first turbine and said second turbine, said plurality of re-directional baffles straightening water flow from said first turbine before the water flow from said first turbine impinges upon said second turbine.

8. (Original) The underwater vacuum and sterilization system according to claim 1, wherein the vacuum housing has a rear wall, the underwater vacuum further comprising:

a socket attached to said rear wall; and

(Original) a T-shaped handle having a gripping portion and a distal end distal from said gripping portion, said distal end of said T-shaped handle being inserted into said socket.

9. (Original) The underwater vacuum and sterilization system according to claim 1, wherein said suction opening has a perimeter and said perimeter of said suction opening defines a plane, and wherein each of said plurality of wheels is attached to said vacuum housing by adjustable attachment means such that the position of each of said plurality of wheels can be adjusted in a direction approximately perpendicular to said plane of said suction opening.

10. (Original) The underwater vacuum and sterilization system according to claim 1, there further being a variable pressure sterilization chemical and fluid flow mechanism that said fluid flows against said surface with enough pressure to completely clean and sterilize all surfaces under said vacuum housing.

11. (Withdrawn) The underwater vacuum and sterilization system according to claim 1, there further being an interior containment chamber within said vacuum housing, said chamber having more than one flexible member, seal or plurality of bristles or brushes thereby defining a circumferential seal on the bottom edges, that said fluid flow is contained inside said chamber and removed by suction through open top of said chamber, such that said variable pressure fluid flow can flow against said surface with enough pressure to remove all matter and sterilize said surface, such that none of the fluid can escape under said containment chamber and enter the water on the exterior of said vacuum housing.

12. (Withdrawn) The underwater vacuum and sterilization system according to claim 1, there further being adjustable attachment means, said suction opening having a perimeter and said perimeter of said suction opening defining a plane, said containment chamber being attached to interior of said vacuum housing by said adjustable attachment means, such that the position of said containment chamber can be adjusted in a direction approximately perpendicular to said plane of said suction opening.

13. (Withdrawn) An underwater vacuum and sterilization system comprising:

(Withdrawn) a vacuum housing having a suction opening at the bottom thereof and a vacuum housing outlet opening, said suction opening being substantially rectangular and having a rear edge, a right edge, a left edge, and a front edge, said suction opening having a
perimeter and said perimeter of said suction opening defining a plane, said vacuum housing having an exterior and an interior, said vacuum housing having a base portion and a cap portion, said cap portion having a rear wall and a front wall spaced apart from said rear wall, said cap portion having a closed top and an open bottom, said open bottom being smaller in area than said suction opening, said cap portion being joined to said base portion at said open bottom of said cap portion, said cap portion having lateral walls that extend between said front and rear wall, said cap portion having a decreasing cross sectional area in sections parallel to said plane of said suction opening, said cross sectional area of said cap portion decreasing from a maximum where said cap portion joins said base portion to a minimum at said closed top of said cap portion;

(Withdrawn) said base portion having a curved front wall extending from said front edge of said suction opening to said front wall of said cap portion, a rear wall extending perpendicular to said plane of said suction opening from said suction opening rear edge to said rear wall of said cap portion, a right sidewall extending from said curved front wall of said base portion to said rear wall of said base portion and from said right edge of said suction opening to said cap portion, and a left sidewall extending from said curved front wall of said base portion to said rear wall of said base portion and from said left edge of said suction opening to said cap portion, said front and rear walls of said base portion, said left sidewall, said right sidewall, and said cap portion cooperatively forming a concavity which opens to said suction opening;

(Withdrawn) said vacuum housing outlet opening being formed in said front wall of said cap portion, said vacuum housing outlet opening being as wide as said closed top of said cap portion and extending from said closed top of said cap portion to said curved front wall of said base portion;

(Withdrawn) a turbine housing fixed to said exterior of said vacuum housing said turbine housing having a turbine housing inlet and a turbine housing outlet, said turbine housing inlet being in fluid communication with said vacuum housing outlet opening;

(Withdrawn) a turbine rotatably supported within said turbine housing;

(Withdrawn) an outlet pipe supported by said vacuum housing, said outlet pipe having an outlet pipe inlet and an outlet pipe outlet, said outlet pipe inlet being in fluid communication with said turbine housing outlet;

(Withdrawn) a brush rotatably supported within said vacuum housing, said brush having a plurality of bristles, said brush being positioned within said vacuum housing such that a predetermined number of said plurality of bristles project beyond said suction opening to the outside of said vacuum housing and contact the surface to be cleaned;

(Withdrawn) a plurality of front wheels rotatably supported on said exterior of said vacuum housing proximate said front edge of said suction opening;

(Withdrawn) a plurality of rear wheels rotatably supported by said interior of said vacuum housing intermediate said rear edge of said suction opening and said brush, said front and rear plurality of wheels supporting said suction opening adjacent a surface to be cleaned and allowing the underwater vacuum to be moved about the surface to be cleaned; and

(Withdrawn) means for transmitting rotational motion from said turbine to said brush;

(Withdrawn) a variable pressure fluid mechanism fluidly connected to variable pressure pump at water surface for transmitting chemical sterilization chemical and fluid to the interior of the vacuum housing to sterilize and additionally clean surface;

(Withdrawn) whereby, when said underwater vacuum is supported adjacent a submerged surface to be cleaned by said plurality of wheels and when said outlet pipe outlet is connected to a pump via a hose and the pump is turned on, water being drawn through said vacuum housing will cause rotation of said turbine which in turn causes rotation of said brush to thereby dislodge matter from the submerged surface, the dislodged matter becoming entrained in water being drawn through said vacuum housing, the water and the dislodged matter being removed from proximity of the submerged surface via the outlet pipe.

(Withdrawn) whereby, when said variable pressure pump is turned on the sterilization chemical and fluid will flow against the submerged surface behind said brush, the said chemical and fluid sterilizing said submerged surface, the water, dislodged matter, sterilization chemical and fluid becoming entrained in water being drawn through said vacuum housing the water and the dislodged matter being removed from proximity of the submerged surface via the outlet pipe

14. (Withdrawn) The underwater vacuum according to claim 13, further comprising a debris trap provided intermediate said vacuum housing outlet and said turbine housing inlet, fluid communication between said vacuum housing outlet and said turbine housing inlet provided via said debris trap.

15. (Withdrawn) The underwater vacuum according to claim 13, wherein said turbine is a first turbine, the underwater vacuum further comprising:

(Withdrawn) a second turbine; and

(Withdrawn) a common turbine shaft rotatably supported within said turbine housing, said first turbine and said second turbine being fixed in tandem to said common turbine shaft, whereby water rushing through said first turbine and said second turbine causes rotation of said common turbine shaft.

16. (Withdrawn) The underwater vacuum according to claim 15, further comprising a plurality of re-directional baffles provided intermediate said first turbine and said second turbine, said plurality of re-directional baffles straightening water flow from said first turbine before the water flow from said first turbine impinges upon said second turbine.

17. (Withdrawn) The underwater vacuum according to claim 13, wherein said vacuum housing has a rear wall formed by said rear wall of said base portion and said rear wall of said cap portion, the underwater vacuum further comprising:

(Withdrawn) a socket attached to said rear wall of said vacuum housing; and

(Withdrawn) a T-shaped handle having a gripping portion and a distal end distal from said gripping portion, said distal end of said T-shaped handle being inserted into said socket.

18. (Withdrawn) The underwater vacuum according to claim 13, there further being

adjustable attachment means, each of said plurality of front and rear wheels being attached to said vacuum housing by said adjustable attachment means, such that the position of each of said plurality of front and rear wheels can be adjusted in a direction approximately perpendicular to said plane of said suction opening.

19. (Withdrawn) The underwater vacuum according to claim 13, wherein:

(Withdrawn) each of said plurality of front wheels is attached to said vacuum housing by a respective one of a first plurality of adjustable attachment means, such that the position of each of said plurality of front wheels can be adjusted in a direction approximately perpendicular to said plane of said suction opening; and

(Withdrawn) wherein said plurality of rear wheels are coaxially fixed to a common shaft rotatably supported by said vacuum housing, there further being a second pair of adjustable attachment means, each end of said common shaft being attached to said vacuum housing by a respective one of said second pair of adjustable attachment means, such that the position of all of said plurality of rear wheels can be adjusted in a direction approximately perpendicular to said plane of said suction opening simultaneously.

20. (Withdrawn) A handheld underwater vacuum and sterilization system comprising:

(Withdrawn) a water suction pipe connected to a handheld tubular vacuum head;

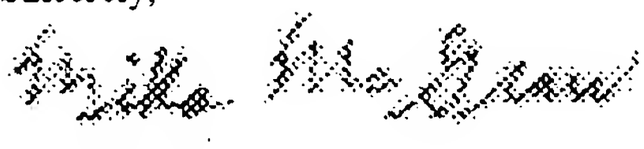
(Withdrawn) a variable pressure fluid mechanism fluidly connected to variable pressure pump at water surface for transmitting chemical sterilization chemical and fluid to the interior of the vacuum head, and supported to the interior of said vacuum head, to sterilize and clean the surface;

(Withdrawn) a flexible member, seal or plurality of bristles or brushes thereby defining a circumferential seal on around the inlet edge of the vacuum head;

(Withdrawn) whereby when the handheld vacuum and sterilization system is placed adjacent to a submerged surface the variable pressure fluid flow from the interior of the vacuum head dislodges matter from the surface and sterilizes the surface. The water suction from inside the vacuum head removes all dislodged matter and sterilization chemical immediately from the area being cleaned and sterilized thereby preventing turbidity or sterilization chemical from entering the surrounding water column.

I hope the above properly addresses the restriction issues.

Sincerely,



Mike McGraw
Cell: (281) 652-6313

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,506	03/09/2004	Michael A. McGraw		2808

MICHAEL A. MCGRAW
902 CREEKBRIAR AVE
GASTONIA, NC 28054

EXAMINER
KARLS, SHAY L

ART UNIT	PAPER NUMBER
1795	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
30 DAYS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No: 10/708506	Applicant(s)	
	Examiner	Art Unit	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on 2/16/07 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT.

- [ ] 1. Amendments to the specification:
  - [ ] A. Amended paragraph(s) do not include markings.
  - [ ] B. New paragraph(s) should not be underlined.
  - [ ] C. Other: .....
- [ ] 2. Abstract
  - [ ] A. Not presented on a separate sheet, 37 CFR 1.72.
  - [ ] B. Other: _____
- [ ] 3. Amendments to the drawings:
  - [ ] A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - [ ] B. The practice of submitting proposed drawing corrections has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - [ ] C. Other _____.
- [X] 4. Amendments to the claims:
  - [ ] A. A complete listing of all of the claims is not present.
  - [ ] B. The listing of claims does not include the text of all pending claims (including withdrawn claims).
  - [X] C. Each claim has not been indicated with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - [ ] D. The claims of this amendment paper have not been presented in ascending numerical order.
  - [ ] E. Other: _____.
- [ ] 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4).

_____

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the entire corrected amendment must be resubmitted.

2. Applicant is given one month, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (d), or an amendment filed in response to a Quayle action. If any of above boxes 1 to 4, are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a Quayle action.

Failure to timely respond to this notice will result in:

Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a Quayle action; or

Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Michael C. McGraw — 571-272-1049

Legal Instruments Examiner (LIE), if applicable — Telephone No.

U.S. Patent and Trademark Office — Page 1 of 1

PTOL-324 (07-05) — Notice of Non-Compliant Amendment (37 CFR 1.121)